

Product Preview

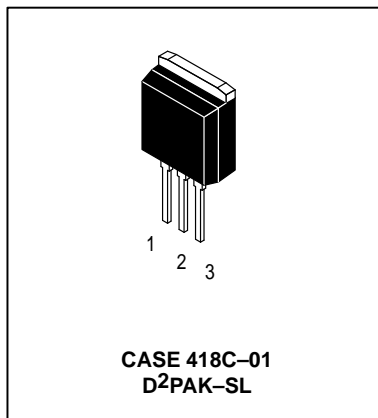
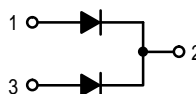
SWITCHMODE™
Schottky Power Rectifier
D2PAK-SL Straight-Leaded
Through Hole Mount Package

MBRB20100CT1

**SCHOTTKY BARRIER
RECTIFIER
20 AMPERES
100 VOLTS**

...using the Schottky Barrier principle with a platinum barrier metal. These state-of-the-art devices have the following features:

- Package Designed for Low Profile Through Hole Mount
- Center-Tap Configuration
- Guardring for Stress Protection
- Low Forward Voltage
- 150°C Operating Junction Temperature
- Epoxy Meets UL94, V_O at 1/8"
- Guaranteed Reverse Avalanche
- Short Heat Sink Tab Manufactured — Not Sheared!
- Similar in Size to Industry Standard TO-220



Mechanical Characteristics

- Case: Epoxy, Molded
- Weight: 1.7 grams (approximately)
- Finish: All External Surfaces Corrosion Resistant and Terminal Leads are Readily Solderable
- Lead Temperature for Soldering Purposes: 260°C Max. for 10 Seconds
- Shipped in 50 units per plastic tube
- Marking: B20101 With 1 signifying straight leads

MAXIMUM RATINGS PER DIODE LEG

Rating	Symbol	Value	Unit
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V _{RRM} V _{RWM} V _R	100	Volts
Average Rectified Forward Current (At Rated V _R , T _C = 110°C)	I _{F(AV)}	10 20	Amps Per Leg Per Package
Peak Repetitive Forward Current (At Rated V _R , Square Wave, 20 kHz, T _C = 100°C)	I _{FRM}	20	Amps Per Leg
Non-Repetitive Peak Surge Current (Surge applied at rated load conditions, halfwave, single phase, 60 Hz)	I _{FSM}	150	Amps Per Package
Peak Repetitive Reverse Surge Current (2.0 μs, 1.0 kHz)	I _{RRM}	0.5	Amp
Storage / Operating Case Temperature	T _{stg} , T _C	-65 to +175	°C
Operating Junction Temperature	T _J	-65 to +150	°C
Voltage Rate of Change	dv/dt	10,000	V/μs

THERMAL CHARACTERISTICS

Thermal Resistance — Junction to Case	Per Leg	R _{θJC}	2.0	°C/W
— Junction to Ambient	Per Leg	R _{θJA}	50	

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ELECTRICAL CHARACTERISTICS

Maximum Instantaneous Forward Voltage (1), see Figure 2 $I_F = 1.0 \text{ Adc}$ $I_F = 2.0 \text{ Adc}$	Per Leg	V_F	$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$	Volts
			0.85 0.95	0.75 0.85	
Maximum Instantaneous Reverse Current, see Figure 4 $V_R = 100 \text{ V}$	Per Leg	I_R	$T_J = 25^\circ\text{C}$	$T_J = 125^\circ\text{C}$	mA
			0.1	6.0	

(1) Pulse Test: Pulse Width $\leq \mu\text{s}$, Duty Cycle $\leq 2\%$.

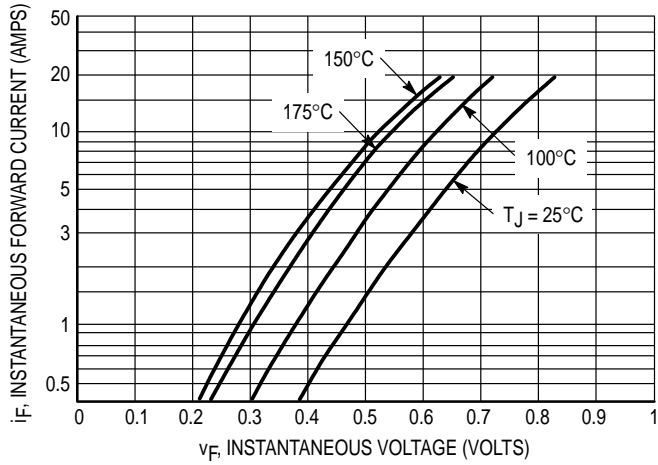


Figure 1. Typical Forward Voltage Per Diode

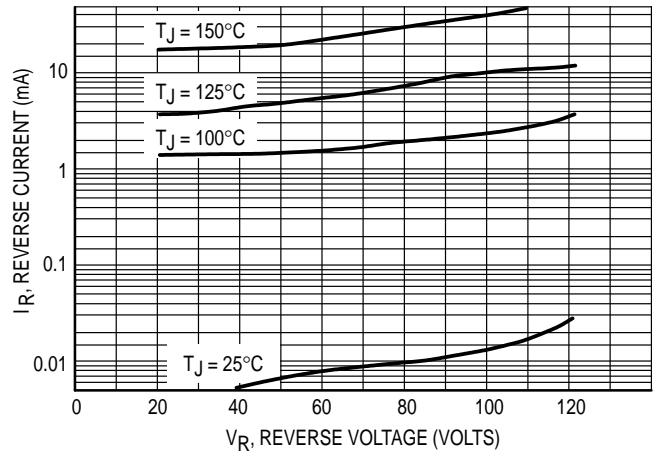


Figure 2. Typical Reverse Current Per Diode

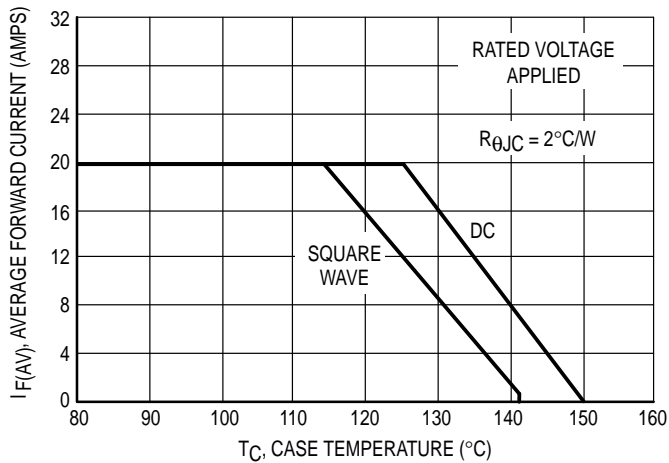


Figure 3. Typical Current Derating, Case, Per Leg

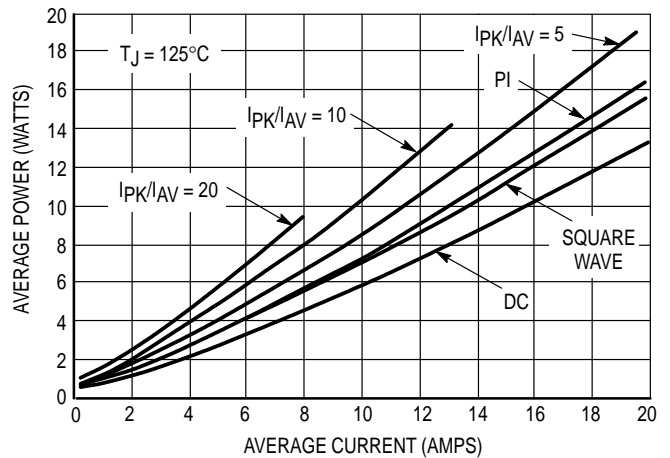
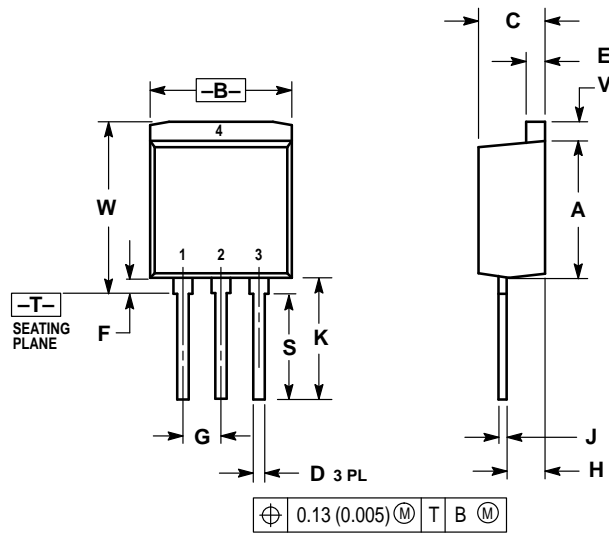


Figure 4. Average Power Dissipation and Average Current

PACKAGE DIMENSIONS



NOTES:
 1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.340	0.380	8.64	9.65
B	0.380	0.405	9.65	10.29
C	0.160	0.190	4.06	4.83
D	0.020	0.035	0.51	0.89
E	0.045	0.055	1.14	1.40
F	0.039 REF		1.00 REF	
G	0.100 BSC		2.54 BSC	
H	0.080	0.110	2.03	2.79
J	0.018	0.025	0.46	0.64
K	0.280	0.360	7.11	9.14
S	0.276 REF		7.00 REF	
V	0.045	0.055	1.14	1.40
W	0.423	0.462	10.75	11.75

CASE 418C-01
 ISSUE O

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